

AGC/WSDOT Structures Team Minutes 19 October 2007

Members

Attendees:	Company	Phone	E-mail
Ayers, Scott	Atkinson Constr.	425-255-7551	scott.ayers@atkn.com
Beaver, Jesse	HQ Constr. ¹	360-705-7825	beaverj@wsdot.wa.gov
Foster, Marco	WSDOT-NWR	360-757-5999	fosterm@wsdot.wa.gov
Hilmes, Bob	ER ¹	509-324-6232	hilmesb@wsdot.wa.gov
Ireland, Scotty	WSDOT-OR	253-305-6430	irelans@wsdot.wa.gov
Kapur, Jugesh	HQ Bridge ¹	360-705-7209	kapurju@wsdot.wa.gov
Madden, Tom	UCO ¹	206-768-5861	maddent@wsdot.wa.gov
Olson, Ryan	Mowat Constr.	425-398-0205	ryan.olson@mowatco.com
Schettler, Jim	Jacobs Civil	206-382-6322	jim.schettler@jacobs.com
Sheikhizadeh, Mohammad	HQ Constr. ¹	360-705-7828	sheikhm@wsdot.wa.gov
Smith, Tobin	Max J. Kuney	509-535-0651	tobin@maxkuney.com
Swenson, Robb	General Constr.	360-394-1407	Robb.Swenson@kiewit.com
Weckerlin, Tim	Kiewit Constr.	425-255-8333	tim.weckerlin@kiewit.com
Welch, Pete	Wilder Constr.	425-551-3100	petewelc@wilderconstruction.com

¹ WSDOT

Guests

Attendee:	Company	Phone	E-mail
Ecklund, Jack	Quigg Bros.	360-533-1530	jacke@quiggbros.com

The meeting started at 09:00.

1. Announcement of New Team Member

Mohammad Sheikhizadeh announced that Scotty Ireland, Project Engineer with WSDOT, had joined the team to fill the WSDOT spot vacated by the departure of Derek Case. Welcome Scotty!

Action Item: No further action by the team.

2. Approval of May and September Meeting Minutes

All members were not able to review the meeting minutes, due to submission near the date of this meeting, so their approval has been tabled to the next meeting.

Action Item: Members are requested to review May and September meeting minutes and provide comments to Mo. Mo will request approval at the November meeting.

3. Lead Team Report

Mo and Scott Ayers relayed that the lead team discussed preparation for the annual meeting and that this team is again requested to provide a presentation or two for the meeting.

Action Item: Team members are requested to suggest presentations.

4. WSDOT Executive Re-organization

Mo provided team members a handout of the new WSDOT executive organization chart. Significant recent changes include:

- Paula Hammond, Secretary of Transportation
- Dave Dye, Deputy Secretary, Chief Operating Officer
- Steve Reinmuth, Chief of Staff

Action Item: No further action by the team.

5. Condition of Bridge Deck Placed At Night

Marco Foster informed the team that he will get data on a newly placed bridge deck on SR-20. The deck is a simple span with a high skew. Marco anticipated providing the location and details of any cracking, the placement details, and data collected during and after placement to include deck temperature. Marco noted that the deck has cracked.

Action Item: Marco will provide data to the team at a future meeting.

6. New Standard Wall Plans

Jugesh Kapur relayed the following changes to the standard wall plans:

- The max wall length between expansion joints has been increased to 48 ft.
- The time required before placement of adjacent wall sections has been increased to 24 hours due to increased shrinkage for longer walls between joints.
- Reinforcement layout has been revised in several locations, including top of walls, at joints, and at the footing.

Team discussion included the following:

- There is no minimum wall length unless a barrier is atop the wall.
- Cast-in-place barrier may overhang the back face of the wall if necessary based on roadway layout.
- Team members will assess the wall/barrier details and provide recommendations for revisions to decrease cost/effort in forming.

Action Item: Team members are requested to look at the revised plans and provide any feedback to Mo.

7. Constructability Review Form

Scott Ayers and Jesse Beaver provided the team a draft single sheet form that will be used to identify necessary steps for design teams to bring a project before the team for constructability feedback. Team members recommended the following:

- Add the form to the WSDOT Design Manual.
- After the initial visit at preliminary plan stage, consider adding a requirement to bring large projects back to the team again at 60% design stage. This strategy worked well for the recent project to overlay a 1-mile stretch of I-5 in Seattle.

Action Item: Team members are requested to review the form and provide and recommendations for modification back to the team.

8. Nooksack River Bridge Pile Welding Constructability

WSDOT Bridge designers requested Contractor feedback on the feasibility and concerns with field splicing structural steel pipe piles for the upcoming Nooksack River Bridge project. Designers expressed particular concern with potential mis-matched sections that could result from the max tolerances on steel pipe pile fabrication. Details for the preliminary design piles follow:

- Steel pipe
- 24" diameter
- Wall thickness 1/2" to 5/8"

Discussion included the following:

- County projects where the piles are filled with concrete and reinforcement did not require ultrasonic inspection (UT).
- Recommend prohibiting spiral wound steel pipe which typically has larger tolerance on roundness.
- Based on experience, members were not concerned with the proposed field welding.

Action Item: No further action by the team.

9. Prestressed Girder Temporary Strands Severed After 30 Days

Tobin Smith requested a change to the standard specifications to allow longer than 30 days to place the deck after cutting the temporary strands on prestressed girders. Tobin explained that the actions of forming and placing diaphragms, adding utilities, and forming deck frequently take longer than the 30 days. He noted that the standard specifications have a procedure to follow for this case that includes the Contractor providing revised camber calculations. Discussion included the following:

- Could WSDOT add camber values to the girder plan sheets for deck placement 30, 60, 90, and 120 days after temporary strands are cut?
- Perhaps the order of diaphragm casting versus temporary strand cutting should be re-evaluated; the change in order appears to have exacerbated this timing problem.

Action Item: Jugesh Kapur will consult with the WSDOT concrete specialist to evaluate a change and report back to the team.

10. Approach Slab Placement & Finishing

Pete Welch questioned the intent of requiring the same finishing for approach slabs as is required for bridge decks and provided the original Division 5 section as well as the amendment moving approach slabs to Division 6. Discussion included the following:

- What method was used when the approach slabs were in Division 5 of the standard specifications?
- What method is now intended for widenings; does this change if the width is less than 20 ft or greater than 20 ft
- Can roller (Bunyan) or truss (Texas) screeds be used for widenings?
- Contractors described difficulty in using finishing machine with skew corners and narrow (25 ft wide) slabs; the corner work differs from the deck placements which are done before the approach slab and therefore allow the Bidwell roller to finish the corners without damaging an adjacent slab.
- Approach slabs typically require significant hand work.
- Setting deck finishing machine rails on skew won't meet standard specification and will not give correct crown.
- Wide bridges require longitudinal joints for walk-behind rollers.
- WSDOT has had poor finish resulting from use of Bunyan or Texas screeds; Contractors suggest placement by Bunyan or Texas screed is heavily workmanship dependent
- Concern for hand placement is over-work which destroys finish and reduces air content at surface.
- The best finish is when the deck finishing machine (Bidwell) places the deck and approach slab together; this method would require a blockout for the expansion joints; however, this does not work on bridges that have approach fills placed after the bridge deck.

A team member also noted that the related amendment 6-02.3(10), 5th paragraph, 1st sentence, had an error. The word "widening" should be changed to "width".

Action Item: WSDOT HQ Construction will review the revised specification to address these concerns and report back to the team.

11. Pile Driving with Semi-Fixed Leads

Scott Ayers provided photographs and the standard specification for pile driving. Scott relayed how he recently used semi-fixed in lieu of the standard specification required fixed-leads and had success. Scott requested that the specifications be changed to allow semi-fixed leads. The team had extensive discussion with the following points:

- Semi-fixed is fixed at top of the leads with a spotter or gate at the bottom, or fixed at bottom only.

- Fixed leads have additional rigid fixity to crane at bottom of lead which is just above ground level.
- Per WSDOT standard specifications, the Pile Driving Analyzer (PDA) is required unless fixed leads are used.
- PDA evaluates stress in pile; team members question the usefulness, or if needed, why not needed for all piles.
- Mo relayed that the performance requirements include structural, which is met by verticality and bearing capacity, and geotechnical, which is met by skin friction and tip bearing capacity.

Discussion indicated a lack of full understanding of the PDA testing and usefulness. Mo agreed to invite Bert Minor to attend a meeting to discuss PDA testing and fixed leads. The team recommended that WSDOT contact Al Wally, currently with Sound Transit, or Chuck Ruth, currently with SC Solutions, to get history of the current specifications.

Action Item: Mo will request attendance by Bert Minor or other to assist team in evaluating usefulness of the PDA testing.

12. Standard Specification Limit of 200 ft for Use of Strike Board

Members questioned the need for a specification limiting the use of hand strike boards to bridge decks with length less than 200 ft. WSDOT members agreed that the goals for quality deck placement could be met without this requirement and therefore, the requirement will be removed from the standard specifications.

Action Item: Mo will amend this section of the standard specification and inform the team when this has been done.

13. BP Rail Availability

Members questioned the requirement for aluminum BP: rails when the geometry is extremely complex and qualified fabricators are limited. Team requested BP rails be constructed of steel coated with galvanizing or powder coat.

Action Item: WSDOT will evaluate if changes are needed to the specification and report back to the team.

14. Moment Slab Strip Feature

Ryan Olson requested addition of a rustication strip along the back side of construction joints between moment slabs and barrier. Ryan indicated that this is currently included on pillow walls but is excluded from MSE walls. He explained that the joint was required to avoid an extremely unattractive line along these walls. Members also requested that WSDOT design moment slabs rather than requiring the MSE wall suppliers to provide the designs. Jugesh agreed to this request and indicated that

WSDOT Bridge Design Office will create standard plans for moment slabs on all MSE walls.

Action Item: Jugesh will provide draft standard plans for review by the team at a future meeting.

15. Intermediate and End Diaphragm Update/Review

Mo provided a handout with the revised standard detail for end and intermediate diaphragms. The revision included a new insert at top inside edge of edge girder flange for an added anchor into diaphragm. The insert was added to mitigate service cracking noticed in several installations at this location. Members noted that the details show an inconsistent view of the bottom of the diaphragm from the “elevation end diaphragm” view to the “roadway expansion joint at end piers” view.

Action Item: No further action by the team.

The meeting was adjourned at 12:00.

The next meeting is scheduled for **30 Nov 07**.